

REMARKS

The Office Action dated March 15, 2006 has been received and carefully noted. The following remarks are submitted as a full and complete response thereto. Claims 1, 2, and 4-38 are currently pending in the application and are respectfully submitted for consideration.

In the Office Action, claims 1-12, 14, and 16-38 were rejected under 35 U.S.C. §102(b) as being anticipated by Beuk (U.S. Patent No. 5,774,673). The rejection is respectfully traversed for the reasons which follow.

Claim 1, upon which claims 2-13 and 33-34 are dependent, recites a method for controlling data flow across a link. The method includes the steps of transmitting a packet request message from a first station to a second station, determining if the packet request message is valid, transmitting a request acknowledge message from the second station to the first station, and determining if the request acknowledge message is valid. The step of transmitting a packet request message further includes the step of generating the packet request message, which includes generating a request non-payload bit string corresponding to a pre-programmed packet request register. The packet request message and the request acknowledge message each include a control bit string, an identification bit string, and at least one parity bit. The control bit string identifies whether a frame is a control frame or a data frame. The identification bit string correlates the packet request message with a corresponding request acknowledge message.

Claim 14, upon which claims 15-27 and 35-36 are dependent, recites a data flow control method for controlling data transmitted across a high speed link. The method includes the step of transmitting a packet request message from a first station to a second station, said packet request message having a first identification number, a first control code group, and a first parity parameter associated therewith. The method further includes the step of storing the first identification number associated with the packet request message. The method also includes the step of transmitting a request acknowledge message from said second station to said first station, said request acknowledge message having a second identification number, a second control group, and a second parity parameter associated therewith. The method further includes the steps of determining if the first and second control groups are valid, determining if the second identification number matches the first identification number, and determining if the first and second parity parameters are valid. The first control group and the second control group are configured to identify whether a frame is a control frame or a data frame. The first identification number and second identification number are configured to correlate the packet request message with a corresponding request acknowledge message.

Claim 28, upon which claims 29-32 and 37-38 are dependent, recites an apparatus for controlling data flow across a link. The apparatus includes a first transmitting unit for transmitting a packet request message from a first station to a second station, said packet request message including a first identification number, a first control code group, and a

first parity parameter associated therewith. The apparatus also includes a storage unit for storing the first identification number associated with the packet request message, and a second transmitting unit for transmitting a request acknowledge message from said second station to said first station, said request acknowledge message having second identification number, a second control group, and a second parity parameter associated therewith. The apparatus further includes at least one flow logic unit for determining if the first and second control groups are valid, determining if the second identification number matches the first identification number, and determining if the first and second parity parameters are valid. The first control group and the second control group are configured to identify whether a frame is a control frame or a data frame. The first identification number and second identification number are configured to correlate the packet request message with a corresponding request acknowledge message.

The cited prior art reference of Beuk fails to disclose or suggest the elements of the claims, and therefore fails to provide the features discussed above.

Beuk discloses a system for communicating between a dynamic group of apparatuses. The system allows an apparatus to establish communication between a local application and applications in other apparatuses. An active activation unit invites applications in other apparatuses to join by using a message sending unit to transmit a broadcast frame to all apparatuses which requests activation of the selected application. The broadcast frame specifies which application is being activated. The active activation unit then determines a communication channel which corresponds to the application and

the selected application, which is stored in storage, is executed by an execution unit. The broadcast frame is received by a message receiving unit in other apparatuses. A passive activation unit verifies whether the receiving apparatus has an application, which corresponds to the specified application and whether such an application needs to be activated (Col. 1, line 57 – Col. 3, line 25).

Applicants respectfully submit that Beuk fails to disclose or suggest all of the elements of the currently pending claims. Applicants note that a “claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Applicants respectfully assert that Beuk fails to disclose or suggest each and every element of the presently pending claims, as will be discussed below.

For example, Applicants respectfully submit that Beuk fails to disclose or suggest “wherein said step of transmitting a packet request message further comprises the step of generating the packet request message, the step of generating the packet request message comprising generating a request non-payload bit string corresponding to a pre-programmed packet request register,” as recited in claim 1. In the response to arguments section of the Office Action, it is alleged that Beuk anticipates this element of the claims because Beuk discloses that “the TYPE field of frames 610 and 630 of Beuk is a multiple bit field (bit string) separate from the DATA (payload) field that corresponds to a

particular message receiving means 210 (register) of Figure 2” (Office Action, page 16, lines 6-9). Applicants respectfully disagree for at least the following reasons.

The message receiving means of Beuk does not correspond to the pre-programmed packet request register of the present invention. Beuk discloses that the message receiving means 210 is for receiving a message frame (Beuk, Column 11, lines 33-34). Further, Beuk discloses that “the message receiving means 210 only receives a group frame 630 if the channel field specifies a channel which has been locally activated (i.e. in the receiving apparatus) by the channel activation means 240” (Beuk, Column 12, lines 9-12). Beuk also discloses that the message receiving means 210 receives the “activation request message 500 and verifies that the message has been received correctly. Beuk, however, fails to disclose or suggest that the message receiving means is pre-programmed and that it corresponds to the request non-payload bit string.

Beuk, as mentioned above, merely discloses that the message receiving means 210 is a component which may receive a group frame under certain circumstances. Beuk does not disclose or suggest that generating a packet request message includes generating a request non-payload bit string corresponding to a pre-programmed packet request register, as recited in the claims. In other words, according to the Office Action’s rationale, Beuk allegedly discloses that the TYPE field of the frames 610 and 630 is generated in order to correspond to the message receiving means 210. However, Beuk contains no such disclosure. Beuk only discloses that the message receiving means 210, as suggested by its name, may receive message frames such as the group frame 630.

Therefore, for at least the reasons discussed above, Beuk fails to disclose or suggest “wherein said step of transmitting a packet request message further comprises the step of generating the packet request message, the step of generating the packet request message comprising generating a request non-payload bit string corresponding to a pre-programmed packet request register,” as recited in claim 1.

Applicants respectfully request that the rejection of claim 1 be withdrawn. Claims 2, 4-13 and 33-34 are dependent upon claim 1. As such, claims 2, 4-14 and 33-34 should be allowed for at least their dependence upon claim 1, and for the specific limitations recited therein.

Furthermore, Beuk fails to disclose or suggest that the first identification number and the second identification number are configured to correlate the packet request message with a corresponding request acknowledge message, as recited in claims 14 and 28. In one embodiment of the present invention, the packet request message and the request acknowledge message both include an identification string.

According to an aspect of the invention, this identification string is used to identify and correlate a specific packet request message with the corresponding request acknowledge message. Through implementation of this correlation scheme, accurate flow control across a high speed link is generated and, therefore, queue or buffer management requirements are reduced at the receiving end (Specification, page 108, lines 19-28). Applicants respectfully assert that Beuk fails to disclose or suggest that the

identification strings are configured to correlate the packet request message with the corresponding request acknowledge message, as recited in the present claims.

The Office Action takes the position that the identification bit string correlates the packet request message with a corresponding request acknowledge message “is anticipated by the channel field (first identification number) shown in group frame 630 (packet request message) of figure 3 that is copied (correlates) to the channel field (second identification number) of acknowledgement frame 640 (request acknowledgment message) of figure 3 and that is used to filter acknowledgement messages as spoken of on column 4, lines 38-48 and column 12, lines 19-28” (Office Action, page 8, lines 15-22). Applicants respectfully disagree. Applicants respectfully assert that copying a first identification number to another location does not produce a second identification number. Further, if the channel field is merely copied to a different location as disclosed in Beuk there would be no need to determine “if the second identification number matches the first identification number,” as recited in claims 14 and 28.

Additionally, Beuk specifically discloses that the channel field, included in the group frame 630, is used for identifying a communication channel. Each apparatus of Beuk includes channel activation means 240 for locally activating specific communication channels. The message sending means 200 only transmits a group frame 630 if the channel field specifies a channel which has been locally activated by the channel activation means 240 (Beuk, Column 11, line 67 - Column 12, line 7). Beuk further discloses that “the acknowledgement frame 640 for acknowledging a group frame

630 may comprise the same channel field as used for the group frame 630. In that case, the acknowledge sending means 220 will only transmit an acknowledgement frame, acknowledging the reception of the group frame, if the message receiving means 210 of Fig. 2 correctly receives a group frame, whose channel field specifies a locally activated channel. The acknowledge sending means 220 copies the channel identification from the channel field of the received group frame to the channel field of the acknowledgement frame” (Beuk, Column 12, lines 10-28).

Therefore, according to Beuk, the channel field is utilized to identify a communication channel. In addition, according to Beuk, a determination is made whether to transmit a group frame based on whether the channel field specifies a locally activated channel. However, Beuk does not disclose or suggest that the channel field is used to identify and correlate a specific request message with a corresponding acknowledgment message. Beuk merely discloses that the acknowledgment frame may include the same channel field as the group frame, and that the channel identification may be copied from the channel field of the received group frame to the channel field of the acknowledgment frame. The channel identification, as suggested by its name, is used to identify the communication channel used. Beuk does not disclose or suggest that the channel field or channel identification is used to correlate a specific request message with a corresponding acknowledgment message, as recited in the present claims.

The Office Action acknowledges that the channel field of Beuk is used to identify a communication channel, but alleges that the channel field also “correlates a packet

request message with a corresponding request acknowledge message” (Office Action, page 16, line 19 – page 17, line 2). The Office Action offers no rationale for this conclusion besides stating that the channel field is copied from the group frame 640 to the acknowledgment frame 640. However, as outlined above, the mere fact that Beuk discloses that the channel field may be copied from one location to another does not anticipate the limitation of “wherein the first identification number and the second identification number are configured to correlate the packet request message with a corresponding request acknowledge message,” as recited in claims 14 and 28.

As a result, Applicants respectfully assert that Beuk fails to disclose or suggest at least this element of claims 14 and 28. In addition, claims 15-27 and 35-36 are dependent upon claim 14, while claims 29-32 and 37-38 are dependent upon claim 28. Therefore, claims 15-27, 35-36, 29-32 and 37-38 should be allowed for at least their dependence upon claims 14, and 28, respectively, and for the specific limitations recited therein.

Claims 13 and 15 were rejected under 35 U.S.C. 103(a) as being unpatentable over Beuk in view of Meyer (U.S. Patent No. 6,611,495). The Office Action took the position that Beuk teaches all of the elements of claims 13 and 15, with the exception of the starting of a timer upon transmission of a packet request message and retransmitting the message if a predetermined period of time has passed. The Office Action then relies upon Meyer to cure the deficiency in Beuk. The rejection is respectfully traversed for the reasons which follow.

Beuk is discussed above. Meyer discloses a system and method for improved data transfer in packet-switched communication networks. A sender receives an acknowledgement message indicating that the intended recipient received a data packet, and a retransmission timer is initialized with a value that compensates for the time lag between the transmission of a data packet by the sender and the receipt of an acknowledgement message.

Applicants note that claim 13 is dependent upon claim 1, while claim 15 is dependent upon claim 14. Applicants respectfully submit that Meyer fails to cure the deficiencies in Beuk with respect to claims 1 and 14, as discussed above. Therefore, claims 13 and 15 should be found allowable for at least their dependence upon claims 1 and 14, respectively, and for the specific limitations recited therein.

Applicants respectfully submit that Beuk and Meyer, whether taken alone or in combination, fail to disclose or suggest all of the elements of the claimed invention. These distinctions are more than sufficient to render the claimed invention unanticipated and unobvious. It is therefore respectfully requested that all of claims 1, 2, and 4-38 be allowed, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



Majid S. AlBassam
Registration No. 54,749

Customer No. 32294
SQUIRE, SANDERS & DEMPSEY LLP
14TH Floor
8000 Towers Crescent Drive
Tysons Corner, Virginia 22182-2700
Telephone: 703-720-7800
Fax: 703-720-7802

MSA:jf